

## Abstract of the Disclosure

A method for fault detection in a power transformer/autotransformer and/or interconnected power lines, which are within the zone protected by the differential protection, and particularly suitable for detecting turn-to-turn faults in power transformer/autotransformer windings. All individual instantaneous phase currents of the protected object are measured, individual phase currents as fundamental frequency phasors are calculated, the contributions of the individual protected object sides negative sequence currents to the total negative sequence differential current are calculated by compensating for the phase shift of an eventual power transformer within the protected zone, the relative positions of the compensated individual sides negative sequence currents in the complex plane are compared, in order to determine whether the source of the negative sequence currents, i.e. the fault position, is within the protected zone or outside of the protected zone, delimited with current transformer locations, the protected object is disconnected if determined that the source of the negative sequence currents is within the protected zone.